## THE REAPER:

## ARGUMENT

OF

# WILLIAM H. SEWARD,

In the Circuit Court of the United States,

OCTOBER 24, 1854.

AUBURN: WILLIAM-L, FINN. 1854.



### M'CORMICK'S REAPER PATENT CASE.

Argument of WM. H. Seward, delivered at Albany, N. Y., Oct. 24th, 1854, before the Circuit Court of the United States for the Northern District of New-York, and a Jury, on the trial of the case of Cyrus H. M'Cormick vs. William H. Seymour and Dayton S. Morgan, for infringement of M'Cormick's Patent for his Reaping Machine.

#### GENTLEMEN OF THE JURY:

The subject which this action brings under consideration, is the Reaper—that wonderful machine, which, in these latter times, is seen moving quietly and steadily on, and laying the harvest-field bare at the rate of an acre to the hour, in place of what was formerly seen, the farmer toilfully cutting up the stalks with a sickle, and depositing them on the ground by the armful. It is one of those devices—as yet among the last and best of those great devices—by which the genius of man has been allowed, through the kindness of his Judge, to mitigate, and even to draw blessings to himself from the primeval sentence, "Cursed be the ground for thy sake."—"In the sweat of thy face shalt thou cat bread till thou return to the ground."

The Reaper derives importance from economy in relation to the market. It brings wheat from the prairies of Michigan, Illinois, Indiana and Wisconsin, while it permits the banks of the Hudson and the Delaware to be covered with pastures and gardens. The Reaper derives importance from considerations of economy in regard to the seasons. The harvest season is short. Wheat ripens and rusts in the sun or rots in the rain, unless it be gathered within the short space of one or two or three weeks. The farmer now plunges

boldly, with his reaper, into the field, whether it is a field of ten aeres, or twenty acres, or one hundred acres, or one thousand acres, and gathers the harvest within a period almost as short as that in which he formerly stood, with eradle in hand, studying the phases of the moon for auspices of the weather.

Again, in the harvest season labor suddenly advances from one dollar a day to two dollars or more; and what the laborer gains by this rise the farmer loses. So it is, that through the use of the Reaper the farmer gets better rewards, while the consumer obtains cheaper bread.

But it is not of the whole Reaper that I am to speak. A Reaper complete, though imperfect, was made in 1834, twenty years ago, by Cyrus H. M'Cormick. He obtained a patent for the machine. You have already heard how small a reward it gave him-one hundred dollars in ten years. The Reaper was in part successful, and so it gave to the public bread; although to him it gave only ashes. The machine would have given more bread to the public, and better sustenance to him, if it had been better appreciated. But the public is slow to appreciate new things, and to accept unusual benefits. The Reaper of 1834, such as it originally was, is now, and has been since 1843, free to the public use. But in 1845 the inventor perfected some additions, and incorporated them into the Reaper of 1834, and thus converted it into a perfect Reaper, which immediately thereafter obtained complete success. It is not a matter of surprise that the Reaper of 1834 went only into partial use. It was not adapted to all soils, all weathers, and all conditions of the ripened grain. The price of the machines was necessarily high, because so few were sold, and so was disproportioned to their usefulness. Meantime wages have nearly doubled, and the demand for wheat has increased as much. The public, therefore, now demand a better Reaper. They want a perfect one. The inventor has met the want, and supplied it.

It is not strange that the Reaper of 1834 was incomplete when first invented, or that it has been perfected now. What work of man was ever perfected on its first construction? The condition of society changes. The imperfect invention which supplies its wants at one period, fails to supply them one, or two, or five, or fifteen, or twenty years afterwards. The canoe served for the navigation of the Hudson once, afterwards the bateau, and then the

sloop; and all these, within a period comparatively short, have given way to the steamboat. The rumbling mail-wagon gave place, after a short time, to the ponderous post-coach, and both have now disappeared before the rail-road with its cars. So it has been with the Reaper of 1834. It has given place to the perfect reaper of 1845. So, doubtless, it will be with the perfect Reaper of 1845. It will, in ten, or twenty, or one hundred years, at least, be rolled away into that receptacle of things lost on earth, which has already swallowed up the sickle and the cradle. So it is, that through the ever pressing, ever increasing wants of mankind, an All-wise Creator has secured the accomplishment of His chief design in regard to man—ETERNAL PROGRESS.

We are now to examine the additions of 1845, which, in the language of the Courts, are called the new features of the Reaper of 1834. In order to ascertain these new features, their peculiarity and their value, you must consider what we had in the Reaper of 1834; namely, horses, a car with its wheels and a platform, pinions and bands, a vibrating sickle working through guard-fingers, a rod, and an imperfect separator of the swath to be cut from the grain which was to be left standing. The machine, thus constructed, worked well when the wheat was fully ripe and stood erect; and the raker, following in its path, with very severe labor drew off from the platform the grain as it was cut, and deposited it on the ground. But wheat in the field is not always fully and equally ripe, and is seldom found strong and erect. The insect early enfeebles the stalks-the wind bends them to the right and to the left, and the rains beat them down, so that they become entangled, and, to use the farmer's expression, are lodged. Then, the imperfect Reaper of 1834 did not separate them at the roots, and bring up to the siekle's edge the stalks within the swath, and did not disentangle and separate and put carefully outside the stalks growing without the swath, that they might be in a condition to be cut on the next round of the machine. Consequently, the entangled stalks obstructed and stopped the machine. The machine required to be cleared, and its track was marked by a trail of stalks, which, having escaped the Reaper, were bent down, and could only be saved afterwards by the use of the siekle, and of the rake applied by hand.

Again, the labor of following the Reaper to draw off the grain, taxed too severely the strength of the farmer. Two things were

wanted. First, a man who should go closely before the Reaper, yet keeping out of its way. While he bent continually towards the ground, he must place his hands under the stalks near the roots, raise them gently upwards, separate them when entangled, place those growing in the Reaper's path within the reach of the reel which is to deliver them to the guard-fingers, and at the same time he must press outward and gently lay aside the stalks which, growing outside of the track of the Reaper, are found inclining over it.

It is clear that such an agent to divide the wheat was wanted in the machine of 1834, because that machine, without that agent, is now free, and yet no farmer will use it, for the reason that he can now procure one having such an agent, though at very considerable cost. Mr. McCormick, indeed, could not make a breathing man to perform the labor that was thus required, and no living man could perform it. He, therefore, invented a mechanical man to perform that labor, and attached him to the machine. Wherever the machine goes now, there that mechanical man goes before it, always stooping and lifting up, and disentangling and dividing the grain.

But, the machine wanted another thing, a better rake to follow behind it and yet able to be always with it, and draw the wheat from the platform as fast as it was cut. McCormick supplied this want in 1847, by arranging a position upon the car of the Reaper upon which the raker might stand, with suitable supports for his person, and there perform the labor of raking the wheat from the platform. This was a still further addition to the Reaper of 1834.

It is only with the first, however, of these additions that we have now to deal—that is to say, with the Divider, patented in 1845. If you will examine that Divider, you will find that it consists of several parts.

First—A beam on the left side of the machine, and reaching out into the wheat.

Second—On the inside of that beam is an iron attached thereto, which enters the grain in the swath to be cut, under the fallen stalks, and, rising as the machine advances, bears those stalks upward and inward, so that they become disentangled and freed, and are brought within the sweep of the reel, which then presses them between the guard-fingers and against the teeth of the vibrating sickle.

Third—On the outside of that same beam, and at the end of it, is a bow extending backwards, bent outwards like the human arm

with its elbow, and rising to a shoulder as it returns to the beam opposite the real standard.

Fourth—The reel, which revolves in front of the siekle, and over the inside Divider, and receives the stalks as they are raised, and delivers them within the guard-fingers.

You are not to suppose that it is elaimed that every one of the four things, which, thus arranged and combined, compose the Divider, was new. It would be no objection to the plaintiff's claim, that it was for a new combination of several things, all of which might have been known and used before. Every machine is a combination of parts. The human frame, the most wonderful of machines, is a combination of parts, many of which are not peculiar to man, but belong to a large portion of the animal ereation. the construction of machines, the parts are necessarily always old. Nature has furnished to us only seven mechanical powers, with which we perform all the operations of human industry. This piece of wood which I hold in my hand contains at least three of them. bevel two of its sides at the end, and you see it becomes the wedge, an instrument which severs rocks. I lay the stick, thus, across another, and so procure a fulerum, and now I have the lever. Archimedes said that if he could only find a fulerum, he would lift the world with a lever. Now I cut a winding crevice around the stick, and I have the serew, the most effective instrument for raising massive weights.

Let us now look at the parts of the Divider particularly. It is apparent that the projecting sharpened beam must be neither too short nor too long. If it be too short, it will not enter the grain sufficiently in advance of the sickle to divide it, and then the machine will be elogged. If it be too long, then the beam, working like the long arm of a lever, will be thrown on one side and on the other, and upwards and downwards, by the vibration of the machine, and make an unequal swath and break down the wheat. The inventor adopted a length of two and a half feet for this projecting beam, and experience has shown that he was right. Look next at the inside dividing iron. It is attached at the end of the projecting beam. Thus entering the wheat at a distance of five or six inches above the roots, it rises backwards towards the siekle at an angle of some thirty degrees, so as to bear up the stalks which it receives. At that elevation it reaches the sweep of the reel. It

then sinks, as it extends backward, so as to avoid being struck by the reel. Look now at the *reel*. Its arms extend over the inside dividing iron, and, in their revolution, come within two inches of it, and thus receive the stalks which are raised up, and press them between the guard-fingers and against the sickle's edge; while at the same time the arms bear the stalks backward, so that they fall uniformly with their heads towards the rear of the platform.

Examine now the outward bow. This bow, fastened at the projecting end of the divider, bends outwards about a foot, and so separates the grain standing on the outside from that within the swath. The bow at the same time rises at an angle which makes it two and a half feet high opposite the reel post—an elevation considerably above that of the inside dividing iron where the reel sweeps over it. Thus you see that the inside dividing iron and the outside bow, together with the beam, form the outlines of a triangular trough in which the disentangled wheat is received, and seized by the overlapping reel, and carried backwards to the siekle. This combination constitutes the first feature in the improved Reaper of 1845.

Is this feature in fact an improvement? It is an improvement, if it is essentially effective. It is essentially effective. One hundred of the Reapers were made in 1847 without the *inside dividing* iron. Eighty of them were returned because they would not work well. The inside dividing iron was placed upon each of them, and they were sent back into the harvest-field in that condition. They are in the harvest fields yet.

The outside bow is equally essential. The machines of 1834, which were used after 1845, did not work well. The farmers attempted to supply the defect by placing a rude bow on the outside, but they did not discover the necessity of having the bow rise backwards as well as bend outwards, and so the defect remained until the bow was put upon the machine, in conformity with the principles described in the patent of 1845.

The other new feature mentioned in the patent of 1845 is simpler than that which we have examined. It consists in the change of the place and posture of the reel standard. In the machine of 1834, the reel standard was in advance of the cutting knives. In that place it interfered with and prevented the operation of dividing the grain. But there must be a reel; and the reel must have a standard to support it. That standard must rest on something, and

have a place somewhere. Nay more, the reel must now be put further in advance of the sickle than it was before, because it is to aid in the operation of dividing. The standard in the machine of 1834 was directly under the end of the axis of the reel. And, since the standard must now be moved still further in advance, it would seem that it must embarrass and defeat still more effectually the operation of dividing, which is the main object of the improvement. The inventor, after much study, at last hit upon an expedient to overcome the difficulty. He removed the foot of the reel standard to a place behind the line of the sickle, and at the same time bent its lower end outward from the machine, so that it could not at all obstruct the passage of the grain to the platform. At the same time he inclined the top of the standard forward, far enough to meet the end of the axis of the reel in its new position. effected two things which seemed irreconcilable. He gave the necessary support to the reel in its advanced position, while he at the same time took the reel standard entirely out of the way of the dividing process. This is the second feature given to the Reaper of 1834 by the patent of 1845. It was not until it had received these two features that McCormick's Reaper became, like the steam engine, the cotton gin and the railroad, an effective and beneficent agent of Human Progress and Civilization. These improvements of 1845 are exclusively the subjects of examination on this occasion.

You see that I do not speak of things outside, or of persons outside of this subject. I shall not speak of the plaintiff, otherwise than as the inventor; nor of the defendants, except in their relation to the subject; nor of my learned adversaries, whom there is no cause to censure, and who fortunately need not to be praised; nor of my associates, nor of myself, because, while it would be in bad taste, it might mislead. I shall make no appeal to your prejudices, or to your passions; but I shall address myself to your reason and understandings only. In that way, and not by asseverating my own convictions and sincerity, shall I show you the confidence I have in the merits of my cause, as well as the respect I entertain for you, and the firm reliance with which I repose on your candor and virtue. In this way we shall soon see which of the parties here it is, that having put out upon a stormy sea, under broad canvas, without sufficient ballast, in a crazy vessel, shouting their

defiance back in answer to remonstrances from the shore, are now seen in distress, seizing planks and making signals, while, with hands uplifted they ery out to the passers by: "Have pity upon us or we sink."

Three questions arise out of the subject which I have just described. First. Does the plaintiff own those two additions to the Reaper? Secondly. Have the defendants appropriated either or both of those additions to their own use? Thirdly. If the plaintiff does own those improvements, and if the defendants have appropriated them to their own use, then the question will arise—not whether the plaintiff shall recover damages, but how much damages shall the plaintiff recover.

First. Does the plaintiff own those additions to the machine of 1834? The defendants assert, in the first instance, that whoever may have made those additions, they are not really inventions for which a patent could lawfully be granted; that they are only mechanical alterations, which could have cost no study and no labor. Certainly, if the additions are not real inventions, the plaintiff cannot own them within the meaning of the law. The allegation of the defendants is, that they are simple. But their simplicity is not evidence that they are not inventions. On the contrary, it is the best evidence that they possess that character. All the processes of Nature are simple. "Nature understood, there are no mysteries." Nature has a capacious store-house of secrets which she is as anxious to give up as the inventor is to obtain them. She prescribes for him only one law to regulate his search, namely, to remember that she works always with simplicity and directness.

"To build—to plant—whatever you intend— To rear the column, or the arch to bend— To swell the terrace, or to sink the grot, In all let Nature never be forgot."

The learned counsel tell you that the machine of 1834, without these additions, was so nearly perfect that it was only a blunder of the inventor to send it out into the world without them; and that consequently the additions of 1845 are only the corrections of blunders committed in 1834. According to this proposition, if a man extorts only one useful secret from nature, he is a worse blockhead than another is who makes no discovery at all. The Marquis of

Worcester discovered that the expansive force of steam could be applied as a hydraulic power. It was a blunder of his that he failed to perfect the stationary engine. James Watt, it has been thought, made an useful discovery, when he perfected the steam engine as a stationary power. Nevertheless, he was a blunderer, because he left it to Robert Fulton to adapt that engine to purposes of navigation, and so convert it into a mighty marine power. Franklin, according to this theory, is to be censured more for not having invented the electric telegraph, than he is to be commended for having discovered the identity of lightning with electricity, and for having constructed the lightning rod. Cyrus H. McCormick, it is confessed, falls within the same class. He has studied in the same school with those venerated blunderers. Deal tenderly with him, gentlemen, in consideration of the bad examples which were thus set before him.

I think now that we may assume that the improvements of 1845 are real inventions. The plaintiff has proved that he is the owner of them. He has proved it by his patent, which is sufficient for him to rest upon. It is for the defendants to overthrow that proof. They aver that they will prove the contrary. In this they are too late to gain your confidence. They have already admitted the fact which they now assume to deny. They have admitted and affirmed it so often and so strongly that you will scarcely believe their denial, even though they shall prove it true. The defendants, in 1845, took a license from the Inventor to make the Reaper of 1834, with these identical additions or features of 1845. They paid him \$22.50 license fee on each machine they so made, and they made and sold no less than three hundred of said machines on those They sold them to farmers for \$120 each, of which sum \$50 was profit, according to their own proof. Thus they obtained for themselves, from the public, \$15,000, while they collected from the public and paid to the Patentee \$6,750. They gathered both these sums from the public, by assuring them that Cyrus H. McCormick was the inventor and owner of these very additions of 1845. After this transaction was past, McCormick concluded that his interest required him to withhold further licenses, as well from the defendants as from all other persons. The defendants, with \$15,000 in their pockets, thus obtained from the public by telling the truth, now seek to obtain another \$15,000 from the same public by declaring that what they before said was true is now false. My learned friends on the other side have discoursed eloquently upon ethics in general, and the virtue of honesty in particular. I should like to hear them on this part of the case I should like to know from them how we are to distinguish, whether the defendants spoke truly to the public when they got the first \$15,000, or whether they are speaking truly now when they are contradicting what they then said, to get another sum of \$15,000. I would especially like to hear these learned casuists upon the question whether the defendants can be allowed to deny McCormick's property in the improvements now, without their first refunding the \$15,000 they obtained by affirming that property heretofore.

But, gentlemen, let us advance to the question. Is the plaintiff the inventor of the two improvements patented in 1845? Certainly they were invented by somebody. Because, before 1845, they were not in the Reaping Machine of 1834, and they were found in the machine of 1845, and are there now. Who put them there? The Patent Office is a place opened expressly to register all elaims for such inventions made in the United States. Whoever fixed these features on McCormick's Reaper, whether by day or by night, did it either for money or for fame. But no one can get either fame or money for such inventions, unless he registers his claim in the Patent Office. The counsel for the defendants tell you that the inventions are yielding \$100,000 a year to their putative owner, the Plaintiff. And yet the Patent Office contains no register of a claim to these improvements by any competing inventor. same thing is true of the Patent Offices in Europe. They have been ransacked by the defendants, and yet no claim preferred by any such competitor is found there. On the other hand, there is found in the Patent Office at Washington an authentic paper, bearing date in December, 1844, in which Cyrus H. McCormick described these very improvements, and asserted that he had incorporated them into his machine of 1834. In January, 1845, the Patent was duly and regularly issued to McCormick as the Inventor. Certainly this was a very extraordinary coincidence. Again, while you find no model of the Reaper with these new features in any Patent Office in Europe, and only one such model in the Patent Office at Washington, that one was placed there by the Plaintiff in December, 1844. Is not that another extraordinary coincidence?

Once more. The Mechanical Reaper, although it was essayed by the ancient Romans, is nevertheless a modern machine. Reaping machines, though rude and coarse, are strong, substantial and firm structures. None were built before 1834, and every one that has since been built is still existing, either whole or in fragments. It would not be difficult to trace every one of them from the shop of the manufacturer to its present resting place. The defendants would obtain a triumph over the plaintiff at once, if they could only find anywhere in the world a Reaping Machine bearing these two nev features, made or sold by any other person than the plaintiff. McCormick brings representatives of all the Reapers he has built since January, 1845, and each one presents these new features in open sight, while the defendants can find no Reaper anywhere bearing these features except those made by the plaintiff, and those made by themselves, either acting as his licensees, or in open defiance of him. This also is most certainly a wonderful coincidence.

These facts are conclusive. But the defendants' counsel are brave and resolute men. Failing to find either claims, or models, or machines, containing these new features, they have ransacked Libraries and the Patent Office, and have brought before us the abortions they have found there, hoping that you may recognize in some of them the new features of McCormick's Reaper. The books and the Patent Office are full of such abortions. They are conceived by men who, although not lacking fertility of genius, yet have not the vigor of mind requisite to mature their inventions.

The first of these abortions exhibited here is presented in the form of a picture and description of a Reaper got up by the Reverend Patrick Bell, contained in London's Encyclopedia, published in 1831. You will remember the author's remark in heralding this supposed invention, namely, that there was as yet no Mcchanical Reaper, unless this one should prove successful. Mr. Bell's projected machine certainly did not contain the new feature of McCormick's. The Divider, consisting of the sharpened beam, the outside bow, and the inside dividing iron co-operating with the reel, was not in Bell's machine. For, as you can see, Bell had no divider at all—but only the outside blade of the series of shear blades which constituted his cutting instrument. The Reel in Bell's machine did nothing towards dividing the swath from the grain to be left standing. Indeed there was no such thing as di-

viding to be done, and the function of the Reel of Bell was merely to incline the heads of the stalks backwards, so that they might fall upon a revolving endless apron, which deposited them upon the ground. No lifting up, disentangling or parting of the grain was attempted. But it is not necessary to press this inquiry farther. The defendants' counsel expressly disclaim the idea that Bell had a Divider like the plaintiff's. They insist, however, that Bell's reel standard is the same as the reel standard of the plaintiff. a sufficient answer that the reel in Bell's machine has not the same office to perform as McCormick's, and, therefore, that its position in relation to the different parts of the machine, is essentially differ-As the reel had no such relative position and duties, so, of course, the reel standard had none and could have none. Bell's project was a failure. His machine was a politician's reaper, rather than a farmer's reaper. It deposited its swath on either side, just as the wind happened to blow. It was a theoretical reaper, adapted to the study of the philosopher, not to the harvest field. Even "the dew of the morning," as its learned inventor confesses, arrested it in tis progress.

The second of the attempted inventions offered by the defendants is Schnebley's. It is described in letters patent, which from their birth were without life, a voice, and nothing else. Schnebley's projected machine was, however, an advance beyond Bell's. It had a Divider. That divider was a horizontal wedge, four inches wide, but it was placed on the level of the shears which constituted the cutting instrument. It did not lift up the grain, nor disentangle it, nor part it, nor turn one portion inward and another outward. Of course, it left the stalks entangled, broke them, and crushed them upon the Schnebley's Reel lent no aid to the dividing process, and had no adaptation to such a purpose, either in its position or in its form of construction. In its position it did not overlap the grain at the point of division, and, instead of having flat arms, like Me-Cormick's reel, it was a barrel with alternate staves removed. Such a reel, instead of aiding to separate the grain, would necessarily beat it down as it passed through. Only one or two machines were ever made upon this plan, and of these not one remains in operation, as its inventor informs us in his deposition. caused it to die? Want of favor from capital, as we are informed on the same authority. The inventor thought capital capricious.

He offered her a steam engine, but she rejected it with disdain. Capital was prejudiced, not against Schnebley's machines, but against Schnebley. He invented a printing-press, and laid it at the feet of capital. Capital looked on the printing-press, and then on Schnebley, and suffered the invention to go the way of all mechanical flesh.

The defendants have next brought Woodward's projected machine before us. Like Schnebley's, it had an attempt at a Divider -a horizontal wedge, four and a half inches wide, with a vertical piece about an inch thick set upon the wedge. But the point of this divider was set on a hinge, and so was adjustable to the right The object of this adjustability was to enlarge or or to the left. diminish the swath. For aught I know, it might have been useful. If it was so, it was an invention; but even then it was not the defendants' Divider of 1845. Except in its adjustability, it was McCormick's Divider of 1834, and nothing more. This machine also proved a failure. Why? The inventor was a visionary. He attached a car behind the Reaper with a pilot, helm and rudder, to steer the machine around the harvest field. How unfortunate was it for the inventor and for his country that the machine was not offered at the Crystal Palace in London, as a competitor for some one of the prizes offered for new things. I am speaking from the place heretofore occupied by the counsel for the defendants during this trial, and I find here this plate on which is printed a Mariner's I do not know, but I think this must be the very compass which was saved from the wreek of Woodward's Marine Reaper. We know what has become of the inventor. He has gone to California. We know also the fate of his invention. It went down in the harvest-field, leaving not a ripple on the surface, like a ship that hath

> ——" gone down at sea, When heav'n was all tranquility."

But, to be serious. In Woodward's patent, which bears date September 30th, 1845, eight months after the plaintiff's patent, no Reel at all is described or represented.

Again, the vertical board is not found in the patent, and is placed upon the machine now from the memory of Mr. Lawrence, who drew the specification. The patent impeaches his memory, if not his veracity. Once more. The vertical board did not extend to

the end of the horizontal wedge, as indeed it could not, because the end of that wedge was set upon a hinge. The divider, therefore, was not only altogether different from McCormick's improved *Divider* of 1845, but was really inferior in effect to the *Divider* in McCormick's patent of 1834.

The defendants next offer a Reaper invented by Jonathan Reed. The inventor appears here first, by letters patent, and secondly, in person as a witness. In person, he claims he had a vertical board set upon a horizontal beam, somewhat like Woodward's, and even like McCormick's in his patent of 1834. But, even in that case, it is conceded that he had no such adjustment of the Reel, and no such inside dividing iron, and no such outside Divider as are found in McCormick's patent of 1845. In opposition, however, to this claim stands Reed's patent, which shows a Reaper without any Divider at all. The defendants' counsel have insisted that it appeared from Reed's testimony that the outside projection of the beam on which the vertical board rested, had an upward inclination corresponding in principle of construction to the outside bow in McCormick's patent of 1845; but the contrary appears from his cross-examination. He says he thinks the point of the beam was a little lower, if anything. Reed is an honest, and a very old man. He has survived his invention many years. While his memory is impaired, he has firmly resisted the ingenious efforts of counsel to swerve him from the truth.

I have dwelt at length, and emphatically upon the failure of these several machines, but not without purpose nor without a reason. The purpose was to show you that each of them was merely experimental, and was never perfected and brought into use. The reason was that in judgment of law, a thing which has been only conceived, devised and practiced experimentally, without being perfected and brought into successful use, has never been invented, and so cannot stand in the way of a subsequent invention.

The machine which was next presented by the learned counsel was one of a different class. It is the one which was invented by Obed Hussey, in 1833. It is a successful machine, and is to be found in quite general use. You see it here before you. It has no divider at all, no reel, and of course no reel standard. The inventor has been examined as a witness, and he expressly tells us that

he rejected the reel as being entirely inappropriate to his machine, and therefore useless.

One other machine has been introduced by the defendants. is the production of Hiram Moore. It is as yet only an experiment, although it is a bold, and I hope it may prove a successful attempt, to combine, in one machine, arrangements for reaping, gathering, and threshing wheat. This machine has no Divider, as indeed it wants none. It is constructed for the purpose of cutting off only the heads of the stalks. It could not do otherwise, because if the straws were cut at the root, the threshing operation could not be performed by the machine. Such being the purpose of the machine, it is provided with a revolving closed cylinder or barrel instead of a reel, and this eylinder is armed with pins which take the heads and throw them behind upon the platform of a threshing eylinder, instead of taking the stalks like McCormick's reel. Moore's machine, being so constructed, has, in place of a divider, only the horizontal wedge which was common to others which have been described. It is needless to add that Moore's horizontal wedge is not the same with McCormiek's Divider of 1845, for it bears no resemblance to it.

I have thus proved to you, gentlemen, that McCormiek added the new features of 1845 to his Reaper of 1834, and have shown you that his claim of invention is unopposed by any evidence in this ease. To make the matter more clear and distinct, however, I will now state that there are only two forms of Dividers known in Reaping Machines, by whomsoever invented or made. One of these is the flat projecting wedge, about four and a half inches wide, with a vertical board in its centre, leaving a projection of the wedge, on each side, inward and outward, of about one and a half inches, but without a curved inside dividing iron or an outside bow bending out and rising upward like the human arm. This Divider was the invention of McCormiek, and was found in the patent of 1834. the other Dividers of that form which have been produced here are only eopies of that one so early invented by him, and thus his own invention of 1834 is brought here, as the invention of other persons, to defeat his title to the invention of 1845. The second form of Divider is that which was invented by McCormick and patented to him in 1845, and which I have already so often and so fully described.

McCormick's two Dividers of 1834 and 1845 having now been

brought directly into mutual contrast, we are able to see more clearly in what respects the one of 1845 is an improvement on that of 1834. The horizontal beam must be narrow, or it would erush the stalks instead of dividing them. It must enter near the roots, but, to disengage the entangled stalks from each other, it must elevate them. So the whole dividing instrument must be narrow at the bottom, and spread out at the top. It must also on the inside be so low as to leave room for the sweep of the Reel, while the Reel must sweep far enough over to prevent any of the stalks from escaping the siekle.

Again, the Reel, while it must have sufficient space to pass without striking the *Divider*, must co-operate in dividing, so as to distribute the stalks near the dividing line among several of the guard-fingers: for otherwise, all the stalks at the dividing line would fall between the two fingers nearest to that line, and so choke the machine and arrest its operation.

I pass now to the second feature in the invention of 1845, namely, the new location of the Reel standard, and I will briefly show you that the defendants have failed to prove that that invention does not belong to the plaintiff. Bell's projected machine, you remember, had no Divider, and no Reel to co-operate in dividing. course, it was no matter where the standard of such a Reel was placed. It was accidentally placed behind the cutting instruments, and the whole machine was constructed so that it was easy and natural to place it there. On the contrary, the standard in McCormick's machine of 1834 was an upright one, standing in a position where it interfered with the process of dividing, and therefore a new place for it was to be found, accompanied with such devices as would make it support the axis of the Reel so far in advance of the sickle as would allow the Reel to co-operate in dividing, while the standard itself was out of the way in that operation. The same thing substantially may be said of Woodward's projected machine, and of Moore's projected machine, and thus, neither Bell's, nor Woodward's, nor Moore's inventions were identical with, or similar to, the plaintiff's. Schnebley's projected machine had an upright reel standard, copied or borrowed from McCormick's patent of 1834, and so had Reed's experimental machine. Neither of those inventions, therefore, if they can be called inventions, is identical, in this respect, with that of McCormick in 1845.

It is thus established that McCormick was the inventor of the new features of the Reaping Machine patented by him in 1845. But it is not enough that he invented them. They must be useful, or this action cannot be sustained. The testimony is full on that point. The Reaper of 1834, without those features, is used nowhere. The Reaper of 1834, with those new features, is used everywhere. I have to demonstrate hereafter, that the defendants have constructed the Reaper of 1834 with the addition of those features. If I shall succeed in that, it will appear that the improvements of 1845 have been stolen by the defendants. The defendants would not take, unlawfully, and at such hazards, what was useless.

But it is due to the inventor, that I should not leave the argument of Utility to stand upon grounds so nearly technical. was a novel scene which the world witnessed two or three years ago. The monarch of the proudest kingdom of modern times caused a palace of glass to be erected, eovering many acres, in the centre of her capital, and she invited, with offers of medals and other rewards, the inventors of all Nations to bring thither the productions of their genius, and submit them to examination, in order that mankind might have the benefit of all that was peculiarly enjoyed by the several Nations respectively. The assemblage of inventors and artisans in that spacious edifice was a scene so different from the conflicts by land and sea which had theretofore marked the meetings of Independent Nations, that benevolent spirits might have looked down upon it with approbation and delight. A liberal portion of the edifiee was assigned, for the exhibition, to each country which competed. The quarters assigned to France to the German States, to Italy, to Austria, to Prussia, and even to Russia, were full, while that reserved for Great Britain was more than full of machines, engines, and other But the large space devoted to the artisans of the works of Art. United States was nearly unoecupied. The skill with which the productions of our country were arranged, failed to conceal the poverty of the contribution. The United States became a theme of derision; and it was felt not only by our countrymen in attendance there, but by ourselves at home, that we had been distanced and disgraced. Just then, in that crisis, there was an assemblage, in the harvest-field, to try, by experiment, whether, among all the contributions contained in the Crystal palace, there was a machine which would effectually take the place of the human reaper in the harvest-

field. Only two machines appeared on the field, and those were both of American invention. The one was Hussey's Reaper of 1833, and the other was McCormiek's of 1834, as improved in 1845. Hussey's machine failed, owing, as was said, to the greenness and moisture of the standing grain. McCormiek's, to the surprise and astonishment of the representatives of so many Nations assembled there, laid the wet and unripened grain upon the ground, leaving not a stalk in its path, at the rate of an acre to the hour. Simultaneously with this victory, American elipper-ships came in from China to the wharves of London, leaving far behind them the swiftest vessels known to British commerce. Derision gave way to congratulation, and it was freely admitted by the representatives of so many Nations, that while European artisans excelled in works whose design was to exemplify the beautiful, American inventions surpassed in those whose object was the useful. So, the Reaper of 1834, as improved in 1845, achieved for its inventor a triumph which all then felt and acknowledged was not more a personal one than it was a National one. It was justly so regarded. No General or Consul drawn in a chariot through the streets of Rome by order of the Senate, ever conferred upon mankind benefits so great as he who thus vindicated the genius of our country at the World's Exhibition of Art in the Metropolis of the British Empire.

I do not forget that Hussey's machine also vindicated the talent and genius of its inventor on several occasions afterward. I rejoice that it was so. Others here may array American inventors into conflict with each other. I shall not, here or elsewhere, depreciate the merit of one public benefactor, in order to elevate another.

Gentlemen, I have come now to the second question which we were to consider, namely: Have the defendants appropriated the plaintiff's invention to their own use? They have done so, if the machines which they have made and sold, without a license from the plaintiff, contain the new features given by the inventor to his machine in 1845. The plaintiff has proved that those machines do contain his inventions, by numerous witnesses—Waters, Jagger, Sadler, Van Tine and Cooley. I need not recapitulate their testimony. They are all practically, as well as theoretically, qualified to testify on that subject, and they are unopposed by any scientific witness on the part of the defendants. How do the defendants

meet this overwhelming proof? They derogate from its effect by stigmatizing those who give it, as professional witnesses,—witnesses who testify for hire. Grant that a professional witness, eoming here to testify for compensation, is unworthy of confidence. Have the defendants proved that these witnesses have received, or are to receive, any compensation beyond that which the law sanctions? They have proved no such thing. What is not proved on a trial at law, does not exist in view of the law. The learned counsel railed, then, without cause, and without ground for accusation.

Nevertheless, if the gentlemen thus assailed were professional witnesses, coming here, and testifying for compensation, what of that? The law not only allows such witnesses, but it directs that they shall be summoned to give their testimony; and it directs, also, that verdicts shall be given, and judgments rendered, upon such testimony. In eapital and other trials, the testimony of persons skilled in Medical and Anatomieal Science, is often required. So, on questions of Insanity, persons who are adepts in that interesting department of the Healing Art, are summoned. The class of professional witnesses is open to the defendants as well as to the plaintiff. Why have they not met the plaintiff in the market? Are they too poor? They have \$20,000 at stake in this suit, and \$15,000 in their pockets which they obtained by means of licenses under this very patent, with which to procure professional witnesses. Do they affect horror at resorting to a class of witnesses whom the law allows? There is an old maxim, too coarsely expressed to be literally repeated here, but it implies that persons of a certain deseription have no good opinion of the law under certain peculiar circumstances.

But, gentlemen, I shall not leave these witnesses without a more complete vindication. The questions which are submitted to us for examination here require to be elucidated by interpretations of mechanical laws. Those interpretations must be given by somebody who is capable of giving them. Who shall make those interpretations for us? I tell you frankly that in my opinion you cannot do it. Nor can the Court do it. Certainly I cannot. The principle upon which interpretations of mechanism are thus given by experts in Courts of Justice, pervades all the transactions of society. You often have occasion to inquire what the law allows and what it forbids. That is a question of moral science. You go to a lawyer.

You sometimes need to know what will conduce to health. You go to a physician. You sometimes desire to know what is your duty in relation to spiritual things. You go to a clergyman. They may be called to testify in Courts of Justhese are experts. tice on questions arising within their respective provinces. such cases they are professional witnesses. An oath is exacted from them. So is an oath exacted of every other witness, and of everybody clse who is engaged in the administration of justiceof vourselves, of me. of the Court, and even of its marshals and bailiffs. But these professional witnesses are supposed to be paid according to the sacrifice of their own time and interests which they make. So are we all: so we all ought to be, at least, if the rule could be made universal. Can you find men who can or will study the laws of Nature, so as to interpret them, without receiving in some way the means of support and of self-instruction? We must look for such benevolent witnesses as the learned counsel for the defendants demand in a different world from this one. Gentlemen, you are to practice in regard to these witnesses the same rules which govern you in the general concerns of life. Their oaths are of some weight, and therefore the law allows them. But oaths are by no means conclusive of a claim to credit. The man who needs an oath to prevent him from committing perjury, will generally testify falsely when sworn. You will receive the testimony of these witnesses like that of all others, just so far as on examination the grounds they assign for the conclusions they present shall seem in your judgment to be sanctioned by reason and truth.

The defendants, while they fail to offer proof, say, nevertheless, that the features of the *Divider*, and the arrangement of the Reel standard in the machines they have manufactured, are not identical with the plaintiff's inventions; and they attempt to support this assertion by showing you that in these particulars those features in their machines differ in form and in material from those of the plaintiff.

Gentlemen, in mechanism, form and even materials may differ widely, while the substance or essence may be the same. A house is no less a house, whether it be built of reeds, or of logs, or of boards, or of brick, or of marble; whether it be in the form of a wigwam, or constructed after an Italian, or a Gothic, or a Grecian model. A ship is no less a ship, whether it be propelled by wind or by steam; if

by wind, whether with one sail, or two or three; and if by steam, whether by the paddle or the screw. Manifestly, therefore, the infringer has a choice whether to take the inventor's form and materials, or those which are different. If he is reckless, he will take those of the inventor; if he is cautious, he will take forms and materials as different from those of the inventor as he can find. It is not, therefore, a sufficient protection for the defendants that they have taken shelter behind materials as different from those of the inventor, as their ingenuity could devise. How, then, shall we ascertain whether, notwithstanding the difference of form and materials, the defendants' Divider and form of Reel Standard are snbstantially the same as those of the plaintiff? The law furnishes a rnle founded upon the deductions of science, that two things, however different in form and material, are, nevertheless, substantially the same, if they produce the same result, by the same mechanical means, or by mechanical means which are equivalent. Let us apply this rnle. It is admitted that the results produced by the defendants' Divider and arrangement of the Reel standard, and by the plaintiff's divider and arrangement of the Reel standard are the same. Let us now consider the means. And first as to the Divi-The plaintiff shows you that the inner dividing-iron and the outer dividing-bow make in effect a triangular trough, through which the arms of the reel sweep, carrying the disentangled stalks of grain backward, and distributing them between the guard-fingers to the edge of the sickle. The defendants, it is true, have technically no inside iron and no outside bow, and, of course, no open space between them. But, in lieu of these, they have a solid frame, the outlines of which are practically the same with the form of the plaintiff's divider and bow, and so produce substantially the same triangular trough. Instead of a horizontal wedge, like that found in other machines, they have a board inclined upward as it extends backward, and this is snrmounted by a vertical piece, also rising upward as it extends backward. In the absence of such a bow, the vertical piece produces the same angular trongh inward, while the onter projection of the inclined wedge sustains and bears off the stalks ontside the swath in the same manner as the plaintiff's outer bow. It is manifest, then, that the outside projection of the wedge and the vertical board are only equivalents for the plaintiff's outer bow, while the inward projection of the wedge is an equivalent for the inner dividing-iron of the plaintiff. Thus, it is seen that the arrangement of the mechanism of the two machines, so far as the Divider is concerned, produces the same result by equivalent The defendants, driven from this point, next argue that the plaintiff's inner dividing-iron is adjustable, to a certain extent, to enter the grain higher or lower, while in their machine there is no such adjustability. This is true; but this adjustability in the plaintiff's machine is not of the essence of his invention. sired effect is produced by him in the same way, whether the inner dividing-iron be elevated or depressed. When the machine is in operation, the position of that iron is fixed, and so the two machines are, in that respect, alike, and work alike. The difference in the arrangement of the parts composing the defendants' divider, as well as the dispensing with the adjustability found in the plaintiffs divider, are either improvements, making the machine better, or defects, making it worse. If they are improvements, the defendants have no right, for any such reason, to use the plaintiff's divider; and if they are defects, they are voluntary ones, and are themselves badges of fraud and of infringement.

After so much illustration it would be needless, at this stage of the argument, to dwell upon the identity of the arrangement of the The form of the arrangement found in the de-Reel Standards. fendants' machine, although different from that found in the plaintiff's machine, as exhibited in the patent of 1845, is, nevertheless, identical with the form used by the plaintiff before and at the time The plaintiff had a right to adopt that new of the infringement. form under his patent, as an equivalent for the one which the patent exhibits; for it is manifest that the former is an equivalent producing the same result as the latter. You see here that the Reel Standard in this model of the machine of 1845 is a post standing on the horizontal beam, a short distance from the range of the sickle, inclined forward to meet the axis of the Reel at the point where it is to be supported, and crooked outward so as to be out of the way of the dividing operation. Manifestly, the plaintiff was at liberty to crook the Standard backward, which would leave the Standard equally effective in giving freedom to the Divider. When he had done this, he was equally at liberty to remove the foot of the Standard still further backward, and thus dispense with the crook altogether; while the Standard itself, being more oblique than before, supported the Reel at the same point and with the same effect. This, precisely, is what the plaintiff has done, and the defendants have only borrowed the form which he was himself the first to adopt. A patent can never describe all the forms in which an invention can be embodied. A patent is granted, on the contrary, when an invention is perfected in one form; and then it secures the inventor not only in that particular, but every one which is its just equivalent, and no more. So, the principle of the plaintiff's Divider, as I have heretofore so often described it, will protect him not only against infringement in the form which has been developed on this trial, but against infringement by mechanism which, though not creating the triangular trough which the plaintiff has in his Divider, shall yet effect the division by separating the stalks near their roots and spreading them out on either side upward toward their heads as the machine advances.

We have now ascertained that the additions of 1845, are real inventions made by the plaintiff, and also, that while they are eminently useful, they have been appropriated by the defendants without license. It would seem, therefore, that we ought to be ready to enter upon the question of the amount of damages to which the plaintiff is entitled. But the defendants here interpose another obstaele which must first be removed out of the way. There is a claim in the patent of 1845, for the arrangement of the teeth of a sickle in reversed angles, operating in the manner described in the specification. The defendants allege, first, that the plaintiff did not invent that improvement, and secondly, that if he did invent it, he did so more than two years before he applied to have it patented, and that, inasmuch as he had suffered nine years to elapse without disclaiming this particular improvement, therefore the whole patent is void. Even if this elaim in the patent of 1845 shall now be found to have been too broad, no one will seriously contend that the plaintiff has had such reason to know that fact heretofore as would have made it obligatory upon him to enter a disclaimer. a diselaimer can be made now, if it shall be found necessary, and so the question which the defendants have raised will, under the statute, affect the costs only, as is better understood by the Court than either by you or by me. Nevertheless, the question must be met somewhere, and I will dispose of it here. In view of the testimony bearing on this branch of the subject, the claim appears to

be a claim for the invention of the reversed angles of the sickle teeth used in connection with guard-fingers having reversed angles adapted, by a peculiar form, to give effect to the reversed teeth of the sickle. That peculiar form of guard-finger is the reverse angle of the back edges of the finger, giving to it the shape of a spearhead. The effect of this use of reversed angles upon the fingers, in connection with reversed angles of the teeth of the sickle, is to hold the stalks firmly while they are meeting the reversed angles on the sickle's edge; and, into this arrangement there enters another part, which is the curved bearer on the finger, by means of which the sickle clears itself from obstructions in the cutting operation. Nobody invented the reversed angle of the finger or the curved bearer before McCormick applied both; and, of course, nobody before him applied the reversed angles of the sickle in connection with them. The entire invention began with McCormick in 1831. He experimented upon the use of reversed sickle teeth in his first effort, according to the testimony of his brother, William S. McCormick; but all his experiments with reversed angled teeth failed until 1843, when he, unaided from any quarter, united the reversed angled finger with the curved bearer, and so, and not otherwise, made the reversed angled teeth practically effective. Having completed the invention, he took out his patent for it in January, 1845, within two years from the discovery.

Have the defendants shown that a sickle with teeth in reversed angles was ever made effective by anybody before 1845? Certainly they have not. The only fact they have prepared to establish, is, that Hiram Moore invented the teeth with reversed angles upon the sickle of a Reaper. Moore says, indeed, that he built his machine in 1835, with a sickle having such teeth. In this he is evidently mistaken; for Andrew Y. Moore says that the first machine was built, not in 1835, but in 1836. Again, it is manifest that Hiram Moore did not perfect his application of teeth with reversed angles before 1836, for he took out his patent for his machine in 1836, and, in that patent he neither claimed any such application, nor did he even describe it. Again, Moore has never yet made his machine with such a sickle successful.

We have now, gentlemen, legitimately reached the question: How much shall the plaintiff recover from the defendants? The law prescribes what he shall recover, and leaves you only the right to assess the amount. The law says that the plaintiff shall recover the damages which he has actually sustained by reason of the infringement. You cannot, therefore, give him more, or give him less. What are his actual damages? The plaintiff, before the infringement, had discontinued the granting of licenses, thereby resuming his monoply, and had made ample preparations for supplying the wants of the public, so far as he thought it consistent with his interest, and required by his duty. Those preparations absorbed \$40,000, as fixed eapital, and used a floating capital of \$50,000. He made one thousand machines in 1850. Of this number, four hundred and eighty-one remained unsold, at the end of the harvest of 1850; and the place of two hundred and seventynine of these was supplied by the infringing machines made and sold by the defendants. The market-price of the plaintiff's machines was from \$110 to \$125. The average profits which he derived from the machines he sold was about \$60. That rate of profit, on the 279 machines made and sold by the defendants, would yield to the plaintiff \$16,740. This action was commenced four years and six months ago. The plaintiff is entitled to interest, as damages, from the commencement of the suit. This interest on the sum beforementioned, would amount to over \$4,500. gregate of those sums is the amount of damages which the plaintiff has actually sustained.

There is nothing, gentlemen, in the plaintiff's situation or conduct to derogate from this claim. He has dealt with the defendants frankly and justly. He remonstrated with them against their unlawful enterprize, and warned them that he should insist upon the satisfaction which the laws of his country would afford. There is nothing in the conduct or situation of the defendants which entitles them to mitigation of damages. They have made by the infringement, and have now in their pockets, or ought to have, just as much money as he has suffered damages. When they shall have refunded it to him he will be no richer and they no poorer by reason of the transaction than the parties would respectively have been, had it not occurred. If you do not give the plaintiff actual damages, they will infringe still further, and others will be emboldened to follow their example, and so the plaintiff's property will be impaired if not destroyed. But the defendants' counsel ask: Shall the plaintiff have all these damages, while there are other

patented parts of the machine which they have also appropriated, which are not covered by this action as it now stands? I answer: The plaintiff is entitled to all these damages, if the two improvements which are now in question have given the Reaper all its commercial value. It is manifest that they have done so, because nobody will buy the reaper without these improvements, though it has all the other parts which are found in the machine as constructed according to the Patents of 1834 and 1845.

This is a naked case of bold, presumptuous, reckless defiance, not merely of the plaintiff's rights, but also of the laws of the The defendants are not obscure, or ignorant, or misled, and, therefore, excusable. Nor are they poor, and, therefore, to be dealt with in tenderness. They are, on the contrary, intelligent, respectable, and rich. They have flagrantly announced to the publie that they had ample means with which to defeat the plaintiff, and we learn from the evidence that the boast was not without They have in their hands \$15,000, lawfully obtained by the use of the plaintiff's inventions, together with \$20,000 unlawfully obtained in the same manner. If they triumph, it will be by means of money which justly belongs to him and not to them. They obliged the plaintiff to bring this action. They employed the press of this State and of other States to discredit his invention and disparage him. They plead now for the farmers against what they call his monopoly. This is no question between him and the farmers of the country. If you leave those \$20,000 in their pockets it will not be disbursed to the farmers. If you allow the defendants to supply the farmers with the plaintiff's machine, the price which the farmers will pay will still remain the same.

The defendants, in their libelous publications, stigmatize the plaintiff as a Virginian, and his machine as a Virginia humbug. There are mutual relations between these States, and a common necessity exacts equal justice from Courts and Jurors. It will not be here in New-York, I am sure, that there will be one standard of justice for the Virginian, and another for the citizen of New-York or of New-England. A citizen of Connecticut, a Northern man, enriched the Southern States by devising and delivering to them an automaton, which picked the seeds from the cotton boll and prepared the clean fibre for the spindle. Courts and juries in

those States denied him the redress to which he was entitled for unlawful violation of his patented rights. South Carolina, to her lasting honor, vindicated her character by bestowing a munificent donation upon the inventor out of the public Treasury. A Virginian has returned to us in the form of an automaton-reaper, the benefit which Eli Whitney conferred on the South. That automaton is the slave of Cyrus H. McCormick. He created the automaton, and the law made it his slave for fourteen years, only nine years of which period have elapsed. The defendants have appropriated that slave to their own use. I appeal to you as just and magnanimous citizens to restore it to its owner.

Gentlemen, we are an ambitious people. We are emulous of Great Britain; we acknowledge no other rival—Great Britain has risen to her present high commercial and imperial position, chiefly through the development of the inventive genius of her people. If we are to attain an equal or superior position we must, in like manner, cherish the inventive genius of our countrymen. That policy is written in our Constitution. You cannot deny justice to an inventor without violating that very Constitution itself. The duty which I have myself performed on this trial, has been a pleasing one, because I have been inspired by a zeal, not only to secure justice in this case, but to maintain the laws and the Constitution. Nevertheless, I envy you the nobler office which you have to perform. I can only plead for justice and national honor. You have the power to render the one and to secure the other.

Counsel for the plaintiff, William H. Seward, Charles M. Keller, and Samuel Blatchford. Counsel for the defendants, Henry R. Selden, John K. Porter, and Nicholas Hill, Jr.

The trial resulted in a verdict for the plaintiff, for \$7,750.





